K011131

JUL 3 1 2001

PREMARKET NOTIFICATION [510(k)] SUMMARY

Submitter

Cozart Bioscience Ltd
45 Milton Park
Abingdon
Oxfordshire OX14 4RU
UK
Tel No: 01235 861483
Fax No: 01235 835607

Contact Person

Lesley Moore
Regulatory Affairs Manager

Date

11th April 2001

Device Name

Trade Name: Methadone Microplate EIA Urine Application
Classification Name: Methadone Test System

Classification

Class II
Code of Federal Regulations Title 21 Food and Drugs
Part 862 Clinical Chemistry and Clinical Toxicology Devices
Subpart D Clinical Toxicology Test Systems
Section 862.3620 Methadone Test System

Establishment Registration No

None as yet.

Performance Standards

BS EN ISO 9001:1994

Introduction

The device detailed above was compared to a Methadone Enzyme Immunoassay (K972526) manufactured by Diagnostic Reagents, Inc. This assay is designed for use on chemistry analysers. The DRI Methadone Enzyme Immunoassay is also a competitive enzyme immunoassay for the detection of methadone in human urine. The data for the DRI Methadone EIA discussed in this report has been taken from the enclosed DRI pack insert. This kit is supplied in a one plate and a five plate format.

Intended Use

The Cozart Methadone EIA provides qualitative screening results for methadone in human urine at a cutoff concentration of 300ng/ml. The DRI Methadone EIA provides qualitative and semi-quantitative screening results for methadone in human urine with a cutoff of 300ng/ml. Both tests provide only a preliminary test result and in order to obtain a more confirmed result Gas Chromotagraphy/Mass Spectrometry (GC/MS) analysis should be performed. For *In Vitro* Diagnostic Use only.

Target Population

The target populations for both tests is clinical and forensic samples.

Where Used

The Cozart Methadone EIA test is designed for use in clinical and forensic laboratories by trained laboratory personnel.

Design

As can be seen from the Principle of the Test section in the pack insert, the Cozart Methadone EIA test is a competitive ELISA for the detection of methadone in human urine. Similarly, the DRI test is also a competitive EIA for the detection of methadone in human urine on automated clinical chemistry analysers.

Materials

The following reagents are supplied with the DRI Methadone EIA test – the Antibody/Substrate Reagent, the Enzyme Conjugate Reagent, 3 calibrators (0, 300 and 1000ng/ml) and 2 controls (200 and 375ng/ml). The Cozart EIA test supplies the following reagents – a microtitre plate coated with antibody, enzyme conjugate reagent, wash buffer, substrate solution, stop solution and four calibrators (0, 100, 300 and 1000ng/ml methadone in human urine).

Performance

Method Comparison

The Cozart Methadone EIA is substantially equivalent to the DRI Methadone EIA as can be seen from the results of the method comparison. All the samples were tested through the Cozart Methadone EIA according to the pack insert enclosed. The DRI assay was performed on an Olympus AU560 instrument at 37°C with a sample volume of 8µl, 125µl of antibody reagent and 125µl of enzyme reagent. Forty-five samples were positive by Cozart Methadone Microplate EIA and confirmed positive

by GC/MS. Of these forty-five samples, five were in the range 300 – 375ng/mL (between +25% cutoff and the cutoff). Where volume permitted thirty-two samples were also tested and found to be positive in another commercially available methadone assay.

Thirty-nine samples from non-user volunteers were negative in Cozart Methadone Microplate EIA and the predicate device. Thirteen samples were confirmed negative by GC/MS, of these, six samples were in the range 225 – 300ng/mL (between –25% cutoff and the cutoff).

New Device	GC/MS Negs***	Near Cutoff GC/MS Negs *	Near Cutoff GC/MS Pos **	GC/MS Pos***	Percent Agreement with GC/MS
Pos	0	0	5	45	100
Neg	13	6	0	0	100

* Between –25% Cutoff and the Cutoff.
** Between +25% Cutoff and the Cutoff.
*** Total number of negative and positives (includes near cutoff samples).

		Predicate Results		Percent Agreement with Predicate
		Pos	Neg	
New Device	Pos	32	0	100
	Neg	0	39	100

Precision

The qualitative precision results obtained with the DRI Methadone EIA test showed coefficients of variation (CV) less than 1% and the semi-quantitative results displayed CVs less than 4%. The precision obtained for the Cozart Methadone EIA test produced CVs less than 10%. The total precision for the Cozart Methadone EIA test produced CVs less than 15%. The differences in the results observed between the two assays is due to the differences in technology. The Cozart EIA is a manual ELISA assay and CVs of less than 10% are acceptable for this assay type. The DRI EIA precision was carried out on an automated analyser, this will reduce the amount of variation obtained.

Sensitivity

The sensitivity of the Cozart Methadone Urine EIA is 1.9ng/ml. The sensitivity of the DRI Methadone EIA was 10ng/ml. The Cozart EIA is therefore more sensitive than the DRI assay.

Specificity

Twenty-nine potentially interfering substances were tested for cross reactivity in the Cozart Methadone EIA and none were found to cross react. Similarly thirty-two potentially interfering substances were tested for cross reactivity in the DRI assay and none were found to cross-react.

Cutoff Concentration

Testing samples at the cutoff concentration, 25% above and 25% below was carried out to validate the cutoff concentration. The absorbances for the 225ng/mL sample were all higher than the 300ng/mL cutoff calibrator. Similarly the absorbances obtained for the 375ng/ml sample were all lower than the 300ng/ml cutoff calibrator.

Interference Studies

A range of parameters including pH, specific gravity, ascorbic acid and protein were tested for potential interference in the Cozart Methadone Urine EIA. No interference was observed with any of the parameters.

Sample Stability

Sample stability was carried out at 2-8°C, room temperature and 37°C. Each sample was tested on day 0, 4, 7, 14 and 21. Urine samples are stable for 21 days stored at 2-8°C, for 7 days at 25°C and 37°C when tested in the Cozart Methadone Urine EIA. For longer storage urine samples must be stored frozen.

Stopped Assay Stability

The stability of the stopped assay was investigated by reading the absorbance at 450nm at time 0, 5, 10, 15, 30, 45 and 60 minutes. The Cozart Methadone Urine EIA must be read within 15 minutes at 450nm.

Assay Drift

Therefore sample addition at time 0, 2.5, 5, 7.5, 10, 12.5, 15, 17.5, 20, 22.5 and 25 minutes was investigated. Little change was observed across the plate and therefore sample addition to a Cozart Methadone Urine EIA must take place within 25 minutes.

Working Strength Wash Buffer Stability

The stability of the working strength wash buffer in the Cozart Methadone Urine EIA has been monitored. The working strength wash buffer was prepared and stored at 2-8°C and room temperature. Testing was carried out at time 0, 2, 4, 6 and 8 weeks. The working strength wash buffer was stable for 6 weeks at 2-8°C and 6 weeks at 25°C.

DEPARTMENT OF HEALTH & HUMAN SERVICES

Food and Drug Administration
2098 Gaither Road
Rockville MD 20850

JUL 3 1 2001

Miss Lesley Moore
Regulatory Affairs Manager
Cozart Biosciences Ltd.
45 Milton Park
Abingdon
Oxfordshire, OX14 4RU
ENGLAND

Re: 510(k) Number: K011131
Trade/Device Name: Methadone Microplate EIA Urine Application
Regulation Number: 862.3620
Regulatory Class: II
Product Code: DJR
Dated: July 6, 2001
Received: July 9, 2001

Dear Miss Moore:

We have reviewed your Section 510(k) notification of intent to market the device referenced above and we have determined the device is substantially equivalent to devices marketed in interstate commerce prior to May 28, 1976, the enactment date of the Medical Device Amendments, or to devices that have been reclassified in accordance with the provisions of the Federal Food, Drug, and Cosmetic Act (Act). You may, therefore, market the device, subject to the general controls provisions of the Act. The general controls provisions of the Act include requirements for annual registration, listing of devices, good manufacturing practice, labeling, and prohibitions against misbranding and adulteration.

If your device is classified (see above) into either class II (Special Controls) or class III (Premarket Approval), it may be subject to such additional controls. Existing major regulations affecting your device can be found in the Code of Federal Regulations, Title 21, Parts 800 to 895. A substantially equivalent determination assumes compliance with the Good Manufacturing Practice for Medical Devices: General (GMP) regulation (21 CFR Part 820) and that, through periodic GMP inspections, the Food and Drug Administration (FDA) will verify such assumptions. Failure to comply with the GMP regulation may result in regulatory action. In addition, FDA may publish further announcements concerning your device in the Federal Register. Please note: this response to your premarket notification submission does not affect any obligation you might have under sections 531 through 542 of the Act for devices under the Electronic Product Radiation Control provisions, or other Federal laws or regulations.

This letter will allow you to begin marketing your device as described in your 510(k) premarket notification. The FDA finding of substantial equivalence of your device to a legally marketed predicate device results in a classification for your device and thus, permits your device to proceed to the market.

If you desire specific advice for your device on our labeling regulation (21 CFR Part 801 and additionally 809.10 for in vitro diagnostic devices), please contact the Office of Compliance at (301) 594-4588. Additionally, for questions on the promotion and advertising of your device, please contact the Office of Compliance at (301) 594-4639. Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21CFR 807.97). Other general information on your responsibilities under the Act may be obtained from the Division of Small Manufacturers Assistance at its toll-free number (800) 638-2041 or (301) 443-6597 or at its internet address "http://www.fda.gov/cdrh/dsma/dsmamain.html".

Sincerely yours,

Steven Gutman

Steven I. Gutman, M.D., M.B.A.
Director
Division of Clinical Laboratory Devices
Office of Device Evaluation
Center for Devices and Radiological Health

Enclosure

510(k) Number (if known): K011131

Device Name: METHADONE MICROPLATE EIA URINE APPLICATION

Indications For Use:

THE COZART METHADONE EIA PROVIDES QUALITATIVE SCREENING RESULTS FOR METHADONE IN HUMAN URINE AT A CUTOFF CONCENTRATION OF 300ng/ml. The TEST PROVIDES ONLY A PRELIMINARY RESULT AND IN ORDER TO OBTAIN A MORE CONFIRMED RESULT GAS CHROMOTOGRAPHY/MASS SPECTROMETRY (GC/MS) ANALYSIS SHOULD BE PERFORMED. FOR IN VITRO DIAGNOSTIC USE ONLY. THE COZART METHADONE EIA TEST IS INTENDED FOR USE IN CLINICAL AND FORENSIC LABORATORIES BY TRAINED LABORATORY PERSONNEL.

(PLEASE DO NOT WRITE BELOW THIS LINE-CONTINUE ON ANOTHER PAGE IF NEEDED)

Concurrence of CDRH, Office of Device Evaluation (ODE)

(Division Sign-Off)
Division of Clinical Laboratory Devices
510(k) Number K011131

Prescription Use ✓ OR Over-The-Counter Use___
(Per 21 CFR 801.109)

(Optional Format 1-2-96)